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| 09/836,209      | 04/16/2001  | Shao-Tsu Kung        | CEIP0024USA         | 7409             |

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NAIPO (NORTH AMERICA INTERNATIONAL PATENT OFFICE)  
P.O. BOX 506  
MERRIFIELD, VA 22116

EXAMINER

BRANT, DMITRY

| ART UNIT | PAPER NUMBER |
|----------|--------------|
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2655

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DATE MAILED: 11/05/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

KS

# Office Action Summary

Application No.

09/836,209

Applicant(s)

KUNG ET AL.

Examiner

Dmitry Brant

Art Unit

2655

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on 04/16/03.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

## DETAILED ACTION

### *Specification*

1. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

### ***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Waibel et al. (5,855,000).

The table bellow summarizes limitations of claim 1 and appropriate teachings in Waibel et al. that meet these limitations.

| Limitations                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Waibel et al.                                                                                                                                                                                                                                                                                 |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| An input method combining verbal and handwritten inputs, the input method comprising:<br><br>utilizing a <u>speech recognition</u> algorithm to generate a <u>first list</u> according to verbal input<br><br>utilizing a <u>character recognition</u> algorithm to generate a <u>second list</u> according to handwritten input<br><br>generating a <u>third list</u> that is an intersection of characters common to the <u>first list</u> and the <u>second list</u> | <b>FIG 6.</b> of Waibel shows combining of verbal and handwritten inputs<br><br>Speech recognition engine (14, See <b>FIG. 1</b> )<br><br>Cursive handwriting recognition engine (18, See <b>FIG. 1</b> )<br><br>If the recognition engine produces an n-best list or lattice, a rescoring of |

Art Unit: 2655

|                                                                |                                                                                                                                                                                                                                                                                                                                                                                                 |
|----------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| presenting at least a character from the third list to a user. | <p>the <u>n-best list resulting from the recognition hypothesis</u> together with the <u>n-best list produced by the repair hypothesis</u> produces a <u>new hypothesis</u>. (Col. 7. lines 46-49)</p> <p>See element 68, FIG. 10. Repair module replaces the highlighted section with the new top-choice, displays it, prints it, etc. as the corrected hypothesis. (Column 11, lines 6-8)</p> |
|----------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

### ***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 2-8 are rejected under 35 U.S.C. 103(a) as being obvious over Waibel et al., and further in view of Larkey (5,127,055) and Carman, II (5,454,046).

As per claim 2, Waibel et al. disclose a system comprised of a speech recognition engine and a cursive handwriting recognition engine (FIG. 1).

Waibel et al. do not disclose a “database from which characters are selected by the speech recognition algorithm and the character recognition algorithm to fill the first list and the second list, respectively”.

Larkey teaches a speech recognition system that “processes and analyzes the incoming speech and compares the incoming speech to reference patterns stored in a reference pattern storage memory.” (Column 4, lines 13-16)

Carman, II teaches a handwriting recognition system that has “a user specific recognition database for storing data pairs” (48, See FIG. 2 and Column 2, lines 41-43)

At the time of the invention it would have been obvious to a person of ordinary skill in the art to modify the recognition engines of Waibel et al. to use the databases for word storage, as taught by Larkey and Carman, II. The motivation for doing so would have been the improved vocabulary capacity of the speech and handwriting recognition systems.

As per claims 3, Waibel et al. disclose a system comprised of speech recognition engine and cursive handwriting recognition engine (FIG. 1).

Waibel et al. do not disclose a “adding a first character to the database, the first character generated by the user using an auxiliary input method”.

Larkey teaches a speech recognition system that “that features dynamically adding new reference patterns to the stored reference patterns during this speech recognition process in response to the recognition correction actions and providing such additional reference patterns for use in recognizing new unknown speech input utterances.” (Column 2, lines 25-30)

Carman, II teaches a system that “queries the user for textual data and then stores a new data pair “, “thus improving subsequent recognition by virtue of an augmented user specific sample recognition database file” (Column 2, line 62 – Column 63, line 6).

At the time of the invention it would have been obvious to a person of ordinary skill in the art to modify the recognition engines of Waibel et al. to use databases that can store additional user input, as taught by Larkey and Carman, II. The motivation for doing so would have been an ability to “train” the recognition system in Waibel et al. to understand new words or characters. Additionally, at the time of the invention it would have been obvious to a person of ordinary skill in the art that if initially the vocabulary set stored in the database was empty, the users would have to “train” the recognition system by adding new words/characters to the empty database, until the database contained sufficiently large number of words/characters for the proper operation of the recognition system.

As for claims 4-5, Waibel et al. disclose a system comprised of speech recognition engine.

Waibel et al. do not disclose a system where “speech recognition algorithm utilizes a first standard for speech recognition, and adapts the first standard to verbal characteristics of the user”

Waibel et al. also do not disclose a system where “characteristics of the user corresponding to the first character are added to the database”

Larkey teaches a speech recognition system that “that features dynamically adding new reference patterns to the stored reference patterns during this speech recognition process in

Art Unit: 2655

response to the recognition correction actions and providing such additional reference patterns for use in recognizing new unknown speech input utterances.” (Column 2, lines 25-30)

At the time of the invention it would have been obvious to a person of ordinary skill in the art to modify the speech recognition engine of Waibel et al. to use new input from the user as a standard and to store it in the database for future reference, as taught by Larkey. The motivation for doing so would have been an ability to “train” the speech recognition system to “learn” new characters and words, thus adjusting to the idiosyncrasies of each user.

As for claims 6-7, Waibel et al. disclose a system comprised of handwriting recognition engine.

Waibel et al. do not disclose a system where “the character recognition algorithm utilizes a second standard for character recognition, and adapts the second standard to handwriting characteristics of the user.”

Waibel et al. also do not disclose a system where “the handwriting characteristics of the user corresponding to the first character are added to the database.”

Carman, II teaches a system that “queries the user for textual data and then stores a new data pair “, “thus improving subsequent recognition by virtue of an augmented user specific sample recognition database file” (Column 2, line 62 – Column 63, line 6).

At the time of the invention it would have been obvious to a person of ordinary skill in the art to modify the handwriting recognition engine of Waibel et al. to use new input from the user as a standard and to store it in the database for future reference, as recited by Carman II.

The motivation for doing so would have been an ability to “train” the handwriting recognition system to “learn” new characters and words, thus adjusting to the idiosyncrasies of each user.

As for claim 8, Waibel et al. disclose a system comprised of speech recognition engine and handwriting recognition engine. Waibel also disclose the use of a keyboard in their system (30, FIG. 1). In light of rejection for claim 3, at the time of the invention it would have been obvious to a person of ordinary skill in the art to modify the system of Waibel to use keyboard for entering words or characters in the system.

### **Conclusion**

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Ditzhik (6,415,256) teaches a computer system with combined speech and writing recognition.

Kupiec (5,500,920) teaches a system for speech recognition and signal transcription applications.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dmitry Brant whose telephone number is (703) 305-8954. The examiner can normally be reached on Mon. - Fri. (8:30am - 5pm).

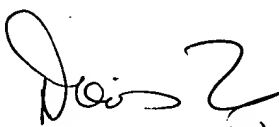
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Talivaldis I. Smits can be reached on (703) 306-3011. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.



Art Unit: 2655

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Tech Center 2600 receptionist whose telephone number is (703) 305-4700.

DB  
10/30/03

  
DORIS H. TO 11/3/03  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2600